A voyage around Julian Huxley . . .

Julian Huxley: Biologist and Statesman of Science
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ARE there still giants in the land? When I first began attending meetings of the Genetical Society meetings in the late 1950s, Julian Huxley, Cyril Darlington, J. B. S. Haldane, Ronald Fisher, Henry (E. B.) Ford, Kenneth Mather and C. H. Waddington were all active. It was said that if any one of them got up to speak, the others would walk out, but I can't remember it ever happening

Do we still have their like? I know now (although I did not then) that there are young policeman and even young bishops. Are our current top scientists faceless technocrats (with, I hasten to add, fearsome intellects), or are there dominating giants among them? Or—one must be honest—were the giants of yesterday really as formidable as one remembers?

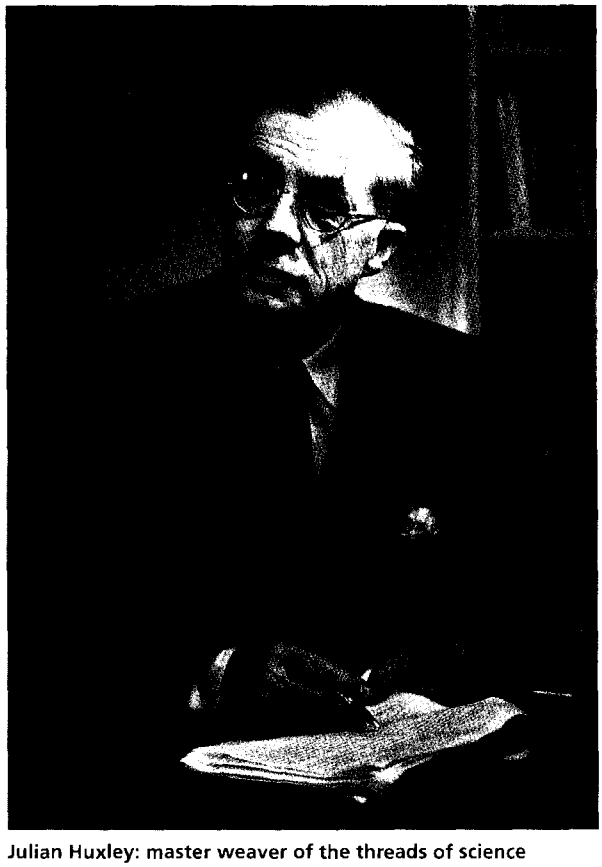
These thoughts are stimulated by the publication of a symposium about Julian Huxley held at Rice University in Houston, Texas, in 1987 to celebrate the centenary of his birth. Huxley set up the biology department at the young Rice Institute (as it then was) in 1912, and taught there until returning to England in 1916 to take part in the First World War. The university has Huxley's papers and library, and obviously regards him as one of the bright spots of its heritage.

However, virtually all the book's contributors put themselves out to prove that Huxley was no more than ordinary, but happened to be able to write well. (His literary ability cannot be gainsaid: he won the Newdigate Prize for poetry when he was an undergraduate at Oxford, and a small book of poems, *Captive Shrew*, brought him royalties for a quarter of a century.) He is described as "a Victorian thinker fated to live in an unsympathetic modern age", part of an "ultimately disappointing effort to turn the cloth of 'science' into a wardrobe of a philosophy of life and a programme for social progress", a liberal on race who was "a reflection of elitist English upper-class attitudes towards the others, be they the races of Empire, the lower classes in England, or Blacks in the American South".

Huxley's effectiveness as a populariser is said to have "depended on his being behind the times . . . his philosophical, scientific, and economic paradigms are in significant ways pre-Heideggerian, pre-Einsteinian, and pre-Keynesian". Even his reputation as the founder of ethology and begetter of the neo-Darwinian synthesis are attributed first to reworking the observations of the pioneering amateurs Edmund Selous and Eliot Howard (writes contributor Richard Burkhardt) and secondly to excluding untenable views of evolutionary mechanisms so that a relatively clear-cut and simplistic version remained (writes Will Provine).

Is this reinterpretation fair? Was Huxley really a secondary figure who made a negligible contribution to science? Certainly, we cannot ignore the possibility; the Eugenics Society in Britain also held a centenary symposium for Huxley in 1987 (The result, *Evolutionary Studies*, edited by Milo Keynes and Geoffrey Ainsworth, was published in 1989, three years earlier than the American offering). In his review of the latter (Review, 5 May 1990), Paul Harvey wrote, "The very fact that these particular scientists (Bryan Clarke, Tom Kemp, Pat Bateson, Robin Dunbar, Bob Martin, *et al.*) felt moved to write in memory of Huxley says a lot for the legacy he left us which, I conclude, is more one of inspiration than of scientific achievement . . . Julian Huxley's published works have not stood the test of time; his vision of progress in evolution that led him to revere Teilhard de Chardin is one example." (Bernard Kettlewell once told me that Huxley came to bitterly reject his long eulogy which preceded the English translation of Teilhard's *Phenomenon of Man*, but had been so enthusiastic in what he wrote that he could not credibly retract. I have never had this confirmed.)

But the persistence of publications or even scientific reputation is not necessarily the proper measure of one's contribution to understanding. Haldane used to say that the correct test was when an idea or result was so incorporated into theory and accepted by future generations that it became part of the corpus of knowledge long after its original proponent was forgotten.



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Julian Huxley: master weaver of the threads of science

Does Huxley do well on this standard? I believe so. For example, it was he who assimilated the observations of the amateur ornithologists into the corpus of professional biology and paved the way for Konrad Lorenz, Nikolaas Tinbergen, William Thorpe, W. D. Hamilton and John Maynard Smith to develop the disciplines of ethology and sociobiology. It was he who brought together the insights of Ronald Aylmer Fisher, Haldane, Sewall Wright, Theodosius Dodzhansky, George Gaylord Simpson and others into a coherent neo-Darwinian theory. Others laboured but he reaped. And this is an important achievement: one of the depressing facts about science is the amount of worthy information that is collected, but then forgotten because it does not become integrated into general theory.

But Huxley's influence was much wider than his work in ethology and evolution, in embryology and eugenics, his other main scientific interests. In fairness to the Eugenics Society and Rice University symposia, neither purported to be a complete evaluation of the man. It would be unjust, however, to ignore Huxley's legacy on the development of biology through his inspiration of a whole generation of field and, to a lesser extent, laboratory scientists. It is difficult to measure this because it was personal and individual. Henry (E. B.) Ford recorded his debt to Huxley in his contribution to the Eugenics Society volume, albeit in a typically idiosyncratic way. Charles Elton, founder of modern animal ecology, has described how Huxley inspired him as an undergraduate, introduced him to key biological problems while on expeditions to Spitsbergen, and then leant on him to write his seminal book *Animal Ecology*, in a series edited by Huxley.

This inspirational side to Huxley was also evinced in his practical support for many

initiatives that brought together amateurs and professionals, students and experts in such persisting successes as the Field Studies Council (50 years old this year) and the New Naturalist books (nearly 50 years old as an imprint).

The other main omission from the two symposia is Huxley's contribution and impact on science policy at both national and international levels. His role in setting up and serving UNESCO as that organisation's first secretary-general is described, but not how he harnessed governmental support for nature conservation—he emerged as the key person behind the formation of Britain's Nature Conservancy and the International Union for the Conservation of Nature, and other kindred bodies.

Huxley's genius was putting biological data into context. Most of the data he used was not collected by himself. Does this make him less of a scientist than those who did the experiments and made the observations? I think not, but here I am at odds with the contributors to this book and, for that matter, the other centenary symposium; but this does not worry me. I believe there were giants in the land; I hope there still are, but they seem to be more difficult to identify (particularly when they miss the significance of the like of Huxley).

If I am right about the mark which Huxley has left, it leads to two beautiful ironies. His grandfather, Thomas Henry Huxley crusaded against what he regarded as malign authority and sought to replace the traditional establishment and its patronage by a scientocracy. Julian inherited this mantle, but influenced policy through his contacts in the corridors of power—the same corridors that excluded his grandfather. Secondly, Thomas Henry's other main contribution was to professionalise biology, separating amateurs from professionals, naturalists from physiologists; Julian went a long way towards healing this divide.

Julian's correspondence in the Rice University collection includes more than 350 letters to or from Solly Zuckerman and more than 250 to or from Max Nicholson, the two outstanding examples of his generation of scientists with, respectively, institutional clout and bridge-building expertise between amateur and professional. There is obviously a job for an historian to study these letters and see how much of a giant Julian Huxley was. □

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